

REMARKS

Claims 1 through 16 are pending in this Application. Claim 1 has been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure. Applicant submits that the present Amendment does not generate any new matter issue.

Claims 1 and 9 were rejected under 35 U.S.C. § 102(b) for lack of novelty as evidenced by Furuya et al (U.S. Pat. No. 4,816,431, hereinafter "Furuya"). Applicants respectfully traverse.

There is an fundamental difference between the claimed invention and the fuel cell and electrode disclosed by Furuya that undermines the factual determination of lack of novelty under 35 U.S.C. § 102. Claim 1, as amended describes an electrode for a fuel cell, wherein a content of the second carbon particle in the catalyst layer is in a range of 10wt.% to 50wt.% with respect to a weight of the entire catalyst layer and that a content of the first carbon particle, the catalytic metal and the ion exchange resin is at least 50wt.% with respect to a weight of the entire catalyst layer. No such electrode comprising the claimed amount of the second carbon particle in addition to the content of first carbon particle, the catalytic metal and the ion exchange resin, is disclosed or suggested by Furuya.

As described in the present specification, by configuring the electrode for a fuel cell in this way, the second carbon particle having a water-repellent surface successfully secures a gas diffusion path and a path for discharging water in the catalyst layer, while a three-phase interface is properly secured by the ion-exchange resin and the first carbon particle supporting the catalytic metal. The resultant electrode for a fuel cell improves the output of the fuel cell and provides a stable output.

Furuya discloses a hydrophobic carbon black content of 30% in the raw materials of the gas permeable electrode. However, a content of platinum powders, hydrophilic carbon black and ion exchange resin is as low as 30%. See column 4, lines 51-64. If a content of platinum powders, hydrophilic carbon black and ion exchange resin is at such a low level, a three-phase interface is not properly secured, resulting in lower output of the fuel cell.

Further, Furuya discloses that the raw materials of the gas permeable electrode comprise 40% polytetrafluoroethylene powders. By including polytetrafluoroethylene as such, the resistance of the gas permeable electrode may be increased. In contrast, the electrode for a fuel cell according to the present application does not include polytetrafluoroethylene which might increase resistance. Instead, water repellency is secured by a carbon particle with high conductivity.

The above argued functionally significant difference between the claimed electrode and the electrode disclosed by Furuya undermine the factual determination that Furuya disclose an electrode, and hence a fuel cell containing such electrode, within the meaning of 35 U.S.C. § 102. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). Applicant, therefore, submits that the imposed rejection under 35 U.S.C. § 102(b) for lack of novelty as evidenced by Furuya is not factually viable and, hence, solicits withdrawal thereof.

Dependent claims 2-4 and 10-12 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Furuya in view of Terazono et al (U.S. Pat. App. Pub. No. 2002/0009626, hereinafter "Terazono"). Applicants respectfully traverse.

Dependent claims 5 and 13 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Furuya in view of Koschany et al (U.S. Pat. No. 6,451,470, hereinafter "Koschany"). Applicants respectfully traverse.

This rejection is traversed. Specifically, claims 5 through 8 and 13 through 16 depend ultimately from independent claim 1. Applicant incorporates herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Furuya. The secondary references to Terazono and Koschany do not cure the previously argued deficiencies of Furuya. Accordingly, even if the applied references are combined as proposed by the Examiner, and Applicant does not agree that the requisite fact-based motivation has been established, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Applicant, therefore, submits that the imposed rejections under 35 U.S.C. § 103 for obviousness predicated upon Furuya in view of Terazono and Furuya in view of Koschany are not factually or legally viable and, hence, solicits withdrawal thereof.

Based upon the foregoing it should be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

Application No.: 10/724,713

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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